

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 09/201,228B  
Source: IFw/6  
Date Processed by STIC: 7/1/05

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 07/01/2005

PATENT APPLICATION: US/09/201,228B

TIME: 11:39:57

Input Set : D:\seq-list-replace.txt

Output Set: N:\CRF4\06302005\I201228B.raw

```

4 <110> APPLICANT: Griffais, Remy
5      Hoiseth, Susan K.
6      Zagursky, Robert John
7      Metcalf, Benjamin J.
8      Peek, Joel A.
9      Sankaran, Banumathi
10     Fletcher, Leah Diane
12 <120> TITLE OF INVENTION: CHLAMYDIA TRACHOMATIS POLYNUCLEOTIDES AND VECTORS,
RECOMBINANT HOST CELLS,
13     DNA CHIPS OR KITS CONTAINING THE SAME
15 <130> FILE REFERENCE: GEN-T109X
17 <140> CURRENT APPLICATION NUMBER: US 09/201,228B
18 <141> CURRENT FILING DATE: 1998-11-30
20 <150> PRIOR APPLICATION NUMBER: US 60/107,077
21 <151> PRIOR FILING DATE: 1998-11-04
23 <150> PRIOR APPLICATION NUMBER: FR 97-16034
24 <151> PRIOR FILING DATE: 1997-12-17
26 <150> PRIOR APPLICATION NUMBER: FR 97-15041
27 <151> PRIOR FILING DATE: 1997-11-28
29 <160> NUMBER OF SEQ ID NOS: 5982
31 <170> SOFTWARE: FastSEQ for Windows Version 4.0
33 <210> SEQ ID NO: 1
34 <211> LENGTH: 1038608
35 <212> TYPE: DNA
36 <213> ORGANISM: Chlamydia trachomatis
38 <220> FEATURE:
39 <221> NAME/KEY: misc_feature
40 <222> LOCATION: (1)...(1038608)
41 <223> OTHER INFORMATION: n = A,T,C or G
43 <400> SEQUENCE: 1
44 gaagcaaaac cctgaaactg aggggagaac agcagcaaac accgcagtag ctgacagcca 60
45 ttcatagaa gacaaaccta ttgaatatgt acgaactcga taggcgtag ataaatcaga 120
46 aaagtaaatt aggcaaggta ttccttgccct aatttactag gaagatacag aggtttttta 180
47 aaatagttca cctccaaggt tatattagaa gccaacatag cctccgcagg ataagctatt 240
48 ggagaggttc ttccttcac ggttgatagt atatgccgtg atgtataagg aacatgcttt 300
49 atagcgaaga atcaattgat ttgccaatgt gtgtgcagag gttggaactg aacagccatt 360
50 ggtagccaa gcaaaatcat tcatagccag gtgagcaaga gtggatgggt tttctcgttt 420
51 aatatctcga gagtaaccga tggatccctt acctagtaga gcaaaagagc tattccctaa 480
52 gcagaattca taaccaatcc cctatgggat ggcgatgttt agaagttttg tcttggaata 540
53 acttcttggg ttatagcctg tttcagtaaa agctctttgc aagatatttg tggcttcgat 600
54 gttggcgaat gagaatacgc gcatagtttg atcatattct aggaatgtat aagaggcccc 660
55 taatgttcct cgcataccga atgtatccca tttcccatag gtgtgatctt ttttgagca 720
W--> 56 tatgcggacc atcgcgttgt gatctaaggc tgcacataat gtanaattga cagtaagggg 780
57 tccccagaca tgggttaaac cgacattctg aacaattcct tctgaagtga tgtgttctgg 840

```

## RAW SEQUENCE LISTING

DATE: 07/01/2005

PATENT APPLICATION: US/09/201,228B

TIME: 11:39:57

Input Set : D:\seq-list-replace.txt

Output Set: N:\CRF4\06302005\I201228B.raw

```

58 taagtctgca acgaacgaat ctccgaacat atgtgagcct cctccagaga gtgtcagggg 900
59 gggagttaag cgtatgatag aggttcctgt agctcctaaa cgagatataa agctttcttc 960
60 ttctgaggag tgggtagaca tttctgctcc agttcctcca attaaaaactc cgaagtatga 1020
61 agtaggaata agagatcgat tattacatag atgatcgccct aagttatgag aggctgtctg 1080
62 taaaagtaaa aatgtgctcc ataaggaatt aggaacggca cgccccactc gattggattc 1140
63 aaggacatat tctcctgttg ggagccaaga agctcctaat attttttgtt tagtattgtt 1200
64 tatagtattt ggctgccagc taaaatgcca ggctccttgg aatcctgatt gtttgttcgt 1260
65 aactagagaa tcagtagtaa atttggagat atctacagtt ttatcagagg tgagcaagat 1320
66 ttccatttgg tatggtgatg ctgcagtatc gcgattttcg tagaataatc cttcaggatc 1380
67 atggatagat ggggatccgg ataatcgtaa aggagcggtg ccggcacgga tctctgcttg 1440
68 aagattagaa ggagagatat ctactccaaa gcttaaacca ttaatttcta ggggttcttt 1500
69 gctggatatg ttgccatgga agaacgagtt catcgtgtat agagccaagg aggatccttg 1560
70 agataaactg atacgtcctc cggctgtgtt gaagcttttg acaatcagat gggctccatt 1620
71 ttcgatagat agggtgccat tatatagatg aacgggttgg ttaaaaaatcg atgttctatt 1680
72 tgcaacatct tccctagcat catctaaaag attcgacccc gagaaaacga tcataccctt 1740
73 aggtgagaag aagggagttt catactcagg agcattgatt tgtatagggg aagatgatgc 1800
74 tgacaatgcc atgacaggat caaagaaatg aatagaatgg tttctgttcg ctgcaagttg 1860
75 gattttatag ggagcttctt tgattaagat agaattgtgt cgatctaggg aagctttttt 1920
76 ggtgatatga agcatggtat tgccgctaaa tgcaatatta ccactatgag caatcaaggt 1980
77 tagagaaggt tttttccctt ctagaagaat tgctcctcct ccaagatctc cggcagcatt 2040
78 atcggaaaaa gtgatggtat tatgagcagt aattgagcat tgagaagagg tgatggctcc 2100
79 accgccttct ttagcggtat ttttttcaaa gcgaatagta tcttgattct gttctaagtt 2160
80 cacatattgc gcgtaaatcg ctccgccttt cttattcgca tgattttgag agaatagaat 2220
81 gggggatggt tgttgattcg ctttgaaatt acttgtgtat atagctcccc cgtagctat 2280
82 tgttggttgc tctttaaagg caagaggtcc tgcatttcct aagaactcga caaggccatt 2340
83 cttattgtag atagcacctc catgcacagc gctattgcct tcgaaagtaa tttgttggtt 2400
84 attaagaaaa agaattctgg atcctgcgaa gtcaccgcta attgctcctc cacgaccatt 2460
85 atgtttcatt gatgaagaag ttacagcttg gttattggta aagatgatag ctccacgttg 2520
86 atctacaaag gatacgcttc ctttcataat tccttgagc tggataacgc caccattccc 2580
87 tttggtgata ttattgcgga aggcaatgtg gtggtgtgtt ttaaaagaga tgtcctcttt 2640
88 cgcagtaaaa attcctcctg tgctttcaga tccaaaagca acaagttttc gtaaatcagt 2700
89 aaattcaata gaggattcag aaaagactcc ggctccaaaa ccattgatat taatgtgttt 2760
90 aaaatgaatg gacgcagaag aattttttcc taagaaggaa attttccttg ctagattccg 2820
91 aaaggctccc cctgatgaaa ctttatttag taacgagaaa tcaactgagta tgagtttgcg 2880
92 attgatgatg taattagtgc cttcaggaca ggaagagatc atggtaaagg tatctcgatc 2940
93 tttacctgtt ttatgtccag aaatagctaa ttccatttct gcaaacgaat aaggagcata 3000
94 gacgattaga gctcctagta gaaacttggg aataagagta agataaggat gatgtactaa 3060
95 gaagtttgta tttggagatt gagaaagttg tctttgatcg tagtgagcat ggatttctat 3120
96 aactcgattc ataagttcct ttgttataaa catcttaaga cattgttttg aacgggaact 3180
97 ataaacagaa agcgcttttc tagcgatcca agatttttta taagtctttg ataacttatt 3240
98 aggaagctgt ttcgaatatg agagaaagac actctttcat agaggatgca gattcattga 3300
99 ttgcttgata cacatctctg caagagtctt tttgttttct ttgagcttga gatgttttca 3360
100 gaatgtttag agcagcagca acatcttcat attgaaaatc ttttttccca cctatgaatt 3420
101 caggaaaaat cgttctgcct agaatgatat tagggagcga gtaggctgga aggataatat 3480
102 taaagatata cttagctaaa aaagtatcca aaggtcggag ctggcaagtg acgatcgtag 3540
103 gagttagatt gagagccgtt tctaggacga tagttccaca tttggcgagg gcaaaatcac 3600
104 attctctcat taattcataa cgaaaactggg aaggaacaat atgactgtgc aaacaccgat 3660
105 tctgttgaag cacttcgagg ataagatggt catattccgg atttgcagac gatacaagta 3720
106 aatggtgtgt ggatgcaaga gaggatgctt gaaaggcctg cacttgaatg gttagattac 3780

```

## RAW SEQUENCE LISTING

DATE: 07/01/2005

PATENT APPLICATION: US/09/201,228B

TIME: 11:39:57

Input Set : D:\seq-list-replace.txt

Output Set: N:\CRF4\06302005\I201228B.raw

```

107 gcaggatatac gctgcgacgg ctaccaggaa acgctgcaat gaaagggttta tcggtaggaa 3840
108 gatggagctg atctttccaa tttagattgg gagaaaagct ttttaattgtt tcagaaagag 3900
109 gatgccctaa atagactgta cgcagagctg aatctttgaa taagttttgt tcaaaaaggaa 3960
110 gtattagtaa aagcaggctc agataatttt ccaaaactgt tttccgtgaa ggtctccaag 4020
111 cccatatgct agggcataca tagtgaacaa tctttccttt atatcctcga gagcgtaatt 4080
112 tttttattaa taagaaatga aaatcaggga aatcaatgca aatcactgtg gcgaggatttg 4140
113 ttttcagaat atttctatag agaagctgat agcggtagca taatttaggt agtgctaaaa 4200
114 gtacttccca gaatccgcta acctgaaatt tctccatagt gaaaagtgc tgaaaattct 4260
115 gtgcacgcat ttgcgggtccc cccacgccaa agcaatgaat atcagggtat tttgcgtgca 4320
116 tttcttttaa taaattccct cccaaagtat ctccactatg ttcgcccga gaaataaagc 4380
117 agctattgct aaaagggttg cggaagctt ctctggaagc gatacgtaga tttgctaaa 4440
118 aagggaataa cccgcatcca taacataaca cgtttacgag atccccgtt cttaggaaat 4500
119 agagaaggca gatagatcct cctagtaggc ttgctttcca aaaaggagcg ggcaggggcg 4560
120 attggttttt gtattcgaga tagaaccact ggatgaaaaa tctcaatgag aagatcgtca 4620
121 atccgataca tctatcagc tgccatgaca aactcgcttc tggtagattc aaatggagga 4680
122 tatttgggga tgccatccac gtcatatgat ggaggtaacg cgttccaata gcaaaagata 4740
123 ccgtgatcgc tgttgctact gagactagta gagaagctat tttcgaaaca ggaaggggat 4800
124 ttagagaggc gatattcagg ttccggaaat aaataatcag attaaacgaa tgcaacaaag 4860
125 caataggata ctgactttga ataaatccgt ggcaaatcat gaaaacggcg ccggtaccgg 4920
126 acagatacca aaaaatcttg ggaacgacag aatacccttt ctttctagtt aaaaaccatt 4980
127 gaacacaaaa agctgtgcca aagaagaggt tggcgaatag tcctagaggg tataaccaga 5040
128 gtgtaatttt ttggggaaac ataacaactc attgtagtaa tcgatagggg agaagaattt 5100
129 tcccaatttc aaatagggaat ggtcattccg atgctaattc ataatgttta agccactctc 5160
130 cataggtagc ctctactttt agatacactt tactgaggat ttctagtaag taaagagctt 5220
131 ctcggaagta ggcattggcg aacaatcttc tattgaagaa agattttttt tctttcttca 5280
132 tagcagacaa tggggtcagc cggtagtgc tttgcaatag cagagttgtc aagatgaaat 5340
133 ttttcttga acaactagta aatgagtcgg caaaaaattc agtcaaaaag tttcgaatat 5400
134 agtcaaagat actttggata gtcacgttg ggtattgact atatttgtag cgcacattga 5460
135 agttaacaat agggaataat aggatcgcta gcagaaagtg tctttctgaa cagaacgagc 5520
136 gtttctgaat tttagtgtct aatgctgtta agcaagcgaa agtctgatct tgcagagtct 5580
137 tactttaagct aaatgcctta gccatgtaag ggaataaaat ctctaggacg cgatgttcgg 5640
138 aagctagctg gaaaaaatg gtagactccc cagaactcaa aactttgatg atttcttcaa 5700
139 agactcgagg ttgagagctt ttcacaagtt cgtgacgaga ttcttgaaga gcttctagag 5760
140 ttttaggata tactgtaaaa gcataacgag ataaaaattt taataggcgc agcatgcgca 5820
141 caggatcttg tttgaaacga aggaaaggat ctccaatagt tctgagatag cgatttttta 5880
142 aatcctcaac accgcctgtg tagtcgatga taatttctgc gctagggtca taaaaaaggc 5940
143 cgtaaatcgt gaagtctctg cgtaatacgt cttcttcggc agatcccaa agattatctt 6000
144 ttgtaattaa ggagtcttct tcgttgctac cagatctaaa ggtagcgacc tctatgattt 6060
145 ggtttgggaa acggatgtga gccaaacgaa atcgtttgcc tacaagaata caatttttga 6120
146 ataacgtttt gacttcttca ggtttagcag aggttgagat atcaaaatct tttggttctg 6180
147 tcttcaacaa caggctctcg atacagcctc cgacaatgta agcttcgtac ccagcttttt 6240
148 tcaaagttct tacaacggaa agcgcgtgag tggagaaact ttgcagatca atattgtggt 6300
149 ctgatggata aaatcctgta ggagtaagat tagaatgaga atttttgctg agcaaatcta 6360
150 agcctctagg cgaaagaagt tcttggttgc aagccatcat tatatgacat tgaaagttaa 6420
151 aaagtctgga ggaattttgt ccttgagcaa gaaggctttt agagtctctc tcaggaaagc 6480
152 tcttctata atagaaaaaa ttacgtttac aagggcaaaa tcacctatat gtttctaaaa 6540
153 attttcaagg gtttagagga ccatatataa ggacgtctt tttgatcatc aacagcttta 6600
154 tgactctctc tcttttatg aagagagagt ggactcagaa acctcgagag tttccgcctc 6660
155 ttttttgggg aaaatgagct cttttcgcac taagaatacc cccaataaat tgaggcatag 6720

```

## RAW SEQUENCE LISTING

DATE: 07/01/2005

PATENT APPLICATION: US/09/201,228B

TIME: 11:39:57

Input Set : D:\seq-list-replace.txt

Output Set: N:\CRF4\06302005\I201228B.raw

```

156 caatagagct cccgaaacag acataacaag taatgctgta tcctgtggaa gaaaacagaa 6780
157 agcgggcaga gctataattc catagacggt atagaattta gatcctttgt ttccgcagat 6840
158 gaaattcgca cactttttcc ctacaaggaa atatgaaata atggtggtgt atcctgtagc 6900
159 aaacagaaac gcgggaagga atacacgaat gtaagggaag taggaggaaa gagcctgttc 6960
160 tacaatttct gatccctcga gtctgtctcg atgccacact ccagaagcaa gaacgataag 7020
161 aagacttagc gtacatacga ggtgtgccac aatcactccg acgatactaa gctgcgcttg 7080
162 tgtctgagga tttgttgacg atgtttcact ttggataatg gaatcaaacc caataccaat 7140
163 atctcctgaa taagctgctc tagatagtcc ttgacgaata gtggaagcca ctgtgcatcc 7200
164 tgcaaatcct ccgatcgctc catgacctgt aaaggccgac cgaaaaatac tagagaatag 7260
165 cgcgggaaga gtatggattt cttgaatcaa aatataaaaa gccattccgc agtagacca 7320
166 catgaagaag ggtaaaacta gggaacagat ttttcctatc cgctgcaagc ctccttgac 7380
167 agcatacata accaggaaga ggagagaagc aatggccatc aatttaggga catcccagca 7440
168 agaggccagt gtattggcaa taattgaaaa ttggtagatc tctaccccat aaatacagag 7500
169 gagaacagca acgataacgg aaacaatgcg ggttctatag gctttatcaa ggaagaacat 7560
170 agggccgcca tgatacacat tattggcatc agactgacgg aatttaatac ctagatagac 7620
171 ttcggagtat ttaactatag accctaggat tccagctatc caaacccaaa agagagctcc 7680
172 aggtccacca aactagcag ctgtgactat cccaacaacg ttgccgatgc cgatattccc 7740
173 tcctgcggaa gcaaagaata cttttaacgg atgaacacct ttcttttggg tttctttttt 7800
174 tgacgaggct tcttttgaaa aatggtagaa tagcttgaaa aacgcaggaa gttgagtaaa 7860
175 ttgtgcaaat ttagatttgc atgtgaacaa aactccgagc aagagaatca aaacaaatgc 7920
176 tatgtatgac caaataaagt catcgaaagc ggtcaaaaaa gacagaaaac cgctcataaa 7980
177 atatatgatt aaaactaaaa ttccttgaaa attaccctat attatccctt ttttcctttt 8040
178 tgtttggtag agagatcctt gaaagaaaga attttttgtt aaaagcattt tttactttct 8100
179 ttagtgaaat ataggtgacc aataagaagg agggttccta tagagataaa cgcactctgt 8160
180 aaattgaagg aaggaaagcg ccaggagtaa tagctaagaa aaaggaagtc gacaacctta 8220
181 ccgtggagta agatatcacc cacattccct agagctccag cgaggatcaa ggttaaagca 8280
182 attcgtgttc ttctatgtaa agacttatat ttaattctca agaataaggc taggcctagg 8340
183 attacgcaaa cgcggaaaat aagaagaggg attttgtatt gggcaaaagag tccaaaggct 8400
184 gtccttcat tgaaggaggg aataatgaga aaagaaaaat gtccccacac gtagctataa 8460
185 agaaaagctg aggagtgagg ggagagctgg cagctcttga gtaacacaac tagttttgag 8520
186 acccaatcaa tagaggctag gagaaggaga gtaaggaagg ttgggagaga acgggtcggc 8580
187 attgtaacta gtttccagaa agaaggcctt tttcgaattt ttcttgtgat ttcacagtca 8640
188 tcgtagcgta agggattgcc attaatcttg ccaacggaat ttcttctcca cttacatcac 8700
189 aaatgccgta agaggcttct tcaatttttt ctaaagcacg atcaatttgt ctaagaagtt 8760
190 tatactcttt agtagtaact tccaggctga tagttcgatc aaacgtatct gtgccttgat 8820
191 ctgcttggtg ctgagaatag cctgttgctt cattaggttt tttgacctct tgagcattcc 8880
192 cttctagagt atgagacaac ttagccttca tttctaaaag acgtgtttta aaattggcta 8940
193 tttcttcgtc cgttaggggc atacaattct ccttttcatg tttgtttttc accatctgg 9000
194 gttgcagata ataagacttc cattagctct cctacatctt taaatcttct gtaaacacag 9060
195 gcgaacctaa tgtacgcaat catatctgct ttttttagat atttcattac tagttcgct 9120
196 atttctttgg tagagatttc tcgattttgt tttccaagaa gatcttgttt gatattagag 9180
197 gcgattgctt gtacttgctt ttgtccaatt cttgtatggc tggaagctgc ttttaatcca 9240
198 ttgacgagct ttgattcttg gaagttttca taacgaccgt ctgcgtttta tacctgtaca 9300
199 gtttaattcta ctgtttcaaa ggttgtaaat ttttggctgc aacgtaagca ttcgcgagg 9360
200 cgtttaatcg cgtttgactc tgggtcgctt cgagagtcga taactttaag ctctccatgg 9420
201 ttacaaaatg ggcatagcac gggagattcc tcctaaaaat caaatattag atccttgttt 9480
202 actacgatag gcccttcaga aatgaaagaa agaggtagct tgcgggatct agtaacacaa 9540
203 ttcttgattg tgattttgtg gtgatttttt ttcaaaagtc gcctaatact tgcaggacgc 9600
204 tcaagatacc acggtttttta ttttaatgga taaaatcctg tgtcttgtgt tgaaaagaac 9660

```

## RAW SEQUENCE LISTING

DATE: 07/01/2005

PATENT APPLICATION: US/09/201,228B

TIME: 11:39:57

Input Set : D:\seq-list-replace.txt

Output Set: N:\CRF4\06302005\I201228B.raw

```

205 ctcttcttag aaagggttttc tctacgggcg gtctcggagt ataattatatt tttgattata 9720
206 agcaaccgct gtttgcccttg atcagatccg gagagggtt tttcgtgtat ctagtttttc 9780
207 aagattgcta aaaagtattg ttgtcacgac ctagcaaagg tatttaattg tctatgtttt 9840
208 caggcattat tcaagaagtc gcacgggtag atcttattca ccatctcggg gattccatgg 9900
209 agattggagt ttttgctcgc aagttagatc atgtgggtcc ggggagtagc ttctccgtcg 9960
210 atggcatatg tttgactctg gtcaaagcag agtacgaatt actctttttt gatgtgactg 10020
211 aagaaacat ggcttggaact accatcaaag attatacggg gggaaccatg gtaaatattg 10080
212 aacgctcggg tcgattagga gatgaaatag gaggacattt tgtctctggg catgtctgtg 10140
213 ggataggcac tattattgcc atagagaaat cctatatgtt ttttaaggct ccagctaatt 10200
214 tagtgcctta tatttttagag aaaggcttca ttgctattga tggcatcagt ttgacaattg 10260
215 cacgagttaa aggggacatc ttttcagtta gtttgattcc ggagactcga gcgcgcacct 10320
216 cattgggtta taaacaggtg ggtgctcacg tgaatatgga gcctgatatg atgacaaaaa 10380
217 tgcaggtgga cacaattatg cgtttccatg ccgaaaaaga gatcagcaaa tgatggatta 10440
218 cgagtgttta gatagtgggg acggtaagaa actagagcga ttttaaggatg tttgcttaat 10500
219 tcgttcttct gccacggcta tttggccaaa gagctctccc tccttatggg ggcagtattc 10560
220 tgctgagttt gttcgtatgg gagaacaagg gcaatggcgg tatcgcaaca gaaatcttaa 10620
221 agaatggtgg ataaccatcg attctgtttc gtgtttattg aagctgactc cttttggtca 10680
222 ttaggtatt ttccccgagc atgctgggtt ctggaaagat ttacaacctt ctgtagccaa 10740
223 gccttcatgt agagttttga atctctttgc ttatactgga gcttcttcta ttttctgtgc 10800
224 tcaacaagga gcaacagttt atcatgtgga tgcttctaaa gcagctgtta agtgggcca 10860
225 aaaaaacgtg gaagggaacg cttttcaaga taaaagggtt ttttgatta tagaagatgt 10920
226 gttttccttc ttgaagaagg aaattcgtcg aggaagact tatgatgtca ttcttttggg 10980
227 tccacctacc tatgggcgag gtctgatgg agagacattc aaaatagatc gcgattttt 11040
228 ccctttatta gagttgtgtt cacagctcct ctctagtctt ttctcgcata tgctgattac 11100
229 ttcacataca ccgggacata ctcccagatt tttgcattgt ttagctagaa gagcgcttcc 11160
230 tatgcttct ctccaagggt ggcgtttagg agaaaatttt tgtggtgagg ggaatcaacg 11220
231 gttgccttc ggggtgtttg cgcaatggag tttatagga aaaataatgc ccgtgttaag 11280
232 agtgctcttg ctttaaaagc ccagcgggca cgtaatggca catatttttt attagaaggg 11340
233 tttcgagaga ttcatcgagc cctaatttct ggataccgtt gttcgcagt attttgcgga 11400
234 gaactaattg ccgataagga gatagctctt gatcgcgagc ttacttcgct tggatattgaa 11460
235 aagttgtatt gttctaagga tattttggaa aaactgtcgt ttaaagagaa tcccagaaat 11520
236 tttattgctg tttttgaaaa gaaagagctg tcttgccaag agtttttagg attgcagcga 11580
237 aagaatcagg ctcccttttta tttgattgtt gagcaagcag aaaaacctgg aaatatagga 11640
238 gctttgctaa ggatcgaga tggagcagg gtggatggag tcattctttg tgatcctgta 11700
239 gtcgatttat acaatcccaa tgtaattcgt tcctctttag gtacagtatt cactatgcct 11760
240 gtttggaag cttctttgaa agaggtcttg gatttggttc atcaacaaga atggcagggt 11820
241 ttcacaacaa ctccatcagc acaaactttt tattttgatc aagatttttg ccaaccgacg 11880
242 gttgtggtgt ttggctcaga aaaagatggt gtcgcctgat tggttgaatg gaagtttttg 11940
243 taacatagct ttacctatgt tagggaaagc agattcatta aacctttctt ctctgttgc 12000
244 agctgttgct tatgaggtcg ttcgacaaag aagtataaga aatcttttat gattcaagtt 12060
245 ttgaaacttg atttttaatg ttttatatgc gatccttcag gatgccctcg tttggaaggc 12120
246 tacttgggta aagaggacga agagtctgtc tcagcccttt aggtttgtca tagtttttgc 12180
247 aggtgttcg ttttaggaaga acttgagtag ggcgcccatt agattcagtt tcttttctg 12240
248 tttcgagac cttttccgtc atctcatcat atctgcgact tctggagcct tgtctgatcg 12300
249 tattaggctg ttttggcag tcatagctag agtgttttct ggctctgttt ggctgcgaca 12360
250 taagattgag aaatctcctc atcaagtaca agcaacagtg gtgagtgtag ggaatatcgt 12420
251 tgttggcggg acaggaaaga ctcttttggg gttatggcta gccaagcac tgcagaaag 12480
252 agggctttct tgtgcggtgc tttcgagagg atacaaaggg aaatatagta agaaaaagc 12540
253 gtttactatt gtgaatccag cgcttcacac cgcttctgtt gttggagatg aacctttgct 12600

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/201,228B

DATE: 07/01/2005  
TIME: 11:39:58

Input Set : D:\seq-list-replace.txt  
Output Set: N:\CRF4\06302005\I201228B.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 764,12902,13230,13231,13272,13273,13340,13514,14225,14255  
Seq#:1; N Pos. 14259,15015,16608,21375,21403,21406,22091,22226,26419,37285  
Seq#:1; N Pos. 41759,42182,42183,42945,43227,45991,58334,58353  
Seq#:1; N Pos. 63745,69828,69829,71075,71076,71078,73507,73509,73510,100419  
Seq#:1; N Pos. 110838,112828,113772  
Seq#:1; N Pos. 122002,131940,134082,134405,134406,143850,148409,149267  
Seq#:1; N Pos. 149274,161339,161691,161692,164538,165185,168433,177456  
Seq#:1; N Pos. 182106,189176,189179,189180,193946,197615,200914,204484  
Seq#:1; N Pos. 204498,204594,209280,209464,209475,210155,211254,212864  
Seq#:1; N Pos. 213954,225706,225978,232387  
Seq#:1; N Pos. 242730,243257,243258,247394,248740,248741,249776,251151  
Seq#:1; N Pos. 251154,254956,255077,255078,255152,255156,255159,255162  
Seq#:1; N Pos. 255163,255184,255189,258794,259562,266940,272737,273559  
Seq#:1; N Pos. 273560,273564,277754,277813,288079,292434,293563,293565  
Seq#:1; N Pos. 298730  
Seq#:1; N Pos. 311804,312340,313224,313225,313411,319713,319729,319737  
Seq#:1; N Pos. 323183,323275,323281,323312,323351,333256,333257,333786  
Seq#:1; N Pos. 333959,335872,338615,338616,346098,346107,346144,358087  
Seq#:1; N Pos. 358120  
Seq#:1; N Pos. 361912,361930,361934,367522,367566,373343,380078,380079  
Seq#:1; N Pos. 380080,387343,392214,393923,396571,397891,419266,419309  
Seq#:1; N Pos. 419339  
Seq#:1; N Pos. 422194,422226,422636,424860,424891,429246,429323,431696  
Seq#:1; N Pos. 433922,437191,437192,437712,441096,442590,442612,442782  
Seq#:1; N Pos. 445158,445509,451676,452696,452743,452786,455754,455755  
Seq#:1; N Pos. 467049,475836  
Seq#:1; N Pos. 488809,488916,493381,497240,497241,497264,497269,497273  
Seq#:1; N Pos. 497274,500779,508035,508843,508910,511981,512425,514307  
Seq#:1; N Pos. 519638,526060,527223,527224,528304,530272,530999,531000  
Seq#:1; N Pos. 534853  
Seq#:1; N Pos. 540450,544526,544527,545416,546999,547194,548524,550442  
Seq#:1; N Pos. 557822,558047,561288,570098,582703,583549,583868,589936  
Seq#:1; N Pos. 589937,589938,589939,589941,589981,596999,597337  
Seq#:1; N Pos. 603094,609367,609368,613504,616496,622262,622342,622343  
Seq#:1; N Pos. 625229,627309,633220,633236,633258,633695,634069,634675  
Seq#:1; N Pos. 635563,635613,635768,636198,636695,638037,642847,648090  
Seq#:1; N Pos. 648119,648146,651860,651994,652093,657608  
Seq#:1; N Pos. 665167,665181,671229,671232,671234,677252,692236,693158  
Seq#:1; N Pos. 698386,701282,701905,702600,708304,713666,714847,715593  
Seq#:1; N Pos. 720167,732693,732694,733881,736546,737661,738346,739445  
Seq#:1; N Pos. 739453,746610,747762,750225,751466,751467,752503,760709  
Seq#:1; N Pos. 760762,761779,761780,762081,764305,768659  
Seq#:1; N Pos. 783583,783730,783765,804081,804082,805330,809673,809786  
Seq#:1; N Pos. 809820,811890,811901,812009,814342,814343,814934,815011

RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 07/01/2005  
PATENT APPLICATION:    US/09/201,228B      TIME: 11:39:58

Input Set : D:\seq-list-replace.txt  
Output Set: N:\CRF4\06302005\I201228B.raw

Seq#:1; N Pos. 822393,822775,825889,825907,837437  
Seq#:1; N Pos. 846011,856120,856123,856155,856173,862109,863873,863988  
Seq#:1; N Pos. 863989,864786,869942,869984,874509,875551,875553,883959  
Seq#:1; N Pos. 884993,895020,897784,897848,897875,898659,899303  
Seq#:1; N Pos. 902002,902004,902033,902820,902960,906435,907225,907559  
Seq#:1; N Pos. 907738,907808,908038,908039,908118,908119,910197,912451  
Seq#:1; N Pos. 913016,913853,915259,915558,916529,916530,920200,920201

**Invalid Line Length:**

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 12



## VERIFICATION SUMMARY

DATE: 07/01/2005

PATENT APPLICATION: US/09/201,228B

TIME: 11:39:58

Input Set : D:\seq-list-replace.txt

Output Set: N:\CRF4\06302005\I201228B.raw

L:56 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:720  
M:341 Repeated in SeqNo=1  
L:17632 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:832  
L:18109 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:272  
M:341 Repeated in SeqNo=13  
L:18170 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:224  
M:341 Repeated in SeqNo=14  
L:18201 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:64  
L:18218 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:16  
L:18469 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:32  
M:341 Repeated in SeqNo=21  
L:18550 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:112  
L:19342 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:160  
L:19542 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:320  
L:19567 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 after pos.:0  
L:19628 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:64  
L:19721 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48 after pos.:16  
L:19780 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:112  
L:20625 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:67 after pos.:112  
L:21143 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78 after pos.:448  
M:341 Repeated in SeqNo=78  
L:22398 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:102 after pos.:304  
L:22876 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:114 after pos.:64  
L:23244 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:119 after pos.:720  
L:23709 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:128 after pos.:32  
L:23836 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:131 after pos.:64  
M:341 Repeated in SeqNo=131  
L:24507 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:142 after pos.:96  
L:24568 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:144 after pos.:80  
L:24587 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:145 after pos.:16  
L:25180 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:157 after pos.:48  
L:25231 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:158 after pos.:208  
L:25347 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:161 after pos.:96  
M:341 Repeated in SeqNo=161  
L:25873 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:173 after pos.:0  
L:26410 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:184 after pos.:96  
L:26657 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:190 after pos.:224  
L:26834 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:193 after pos.:192  
L:27045 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:199 after pos.:16  
L:27294 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:203 after pos.:608  
M:341 Repeated in SeqNo=203  
L:27448 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:206 after pos.:240  
M:341 Repeated in SeqNo=206  
L:27471 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:207 after pos.:0  
M:341 Repeated in SeqNo=207  
L:27537 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:209 after pos.:16  
L:27572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:210 after pos.:32  
L:27655 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:211 after pos.:48

**VERIFICATION SUMMARY**

DATE: 07/01/2005

PATENT APPLICATION: US/09/201,228B

TIME: 11:39:58

Input Set : D:\seq-list-replace.txt

Output Set: N:\CRF4\06302005\I201228B.raw

L:28239 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:227 after pos.:0

L:28327 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:229 after pos.:224